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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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JOHN G TOLOMEI, PATENT DEPARTMENT
UOP LLC
25 EAST ALGONQUIN ROAD
P O BOX 5017
DES PLAINES, IL 60017-5017

EXAMINER

QUAN, ELIZABETH S

ART UNIT PAPER NUMBER

1743

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/900,843	Applicant(s) NAYAR ET AL.	
	Examiner Elizabeth Quan	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 47-50 and 56-60 is/are allowed.
- 6) ☒ Claim(s) 1,3-46 and 51-55 is/are rejected.
- 7) ☒ Claim(s) 12,18,20 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 51 is objected to because of the following informalities: "at" between "inlet" and "the array" should be "and" in subsection "d". See claim 18. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 51-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 51 is rendered indefinite by the limitation "a dispersion structure positioned between the fluid inlet at the array support" since it does not provide the other half of the structure in conjunction with the fluid inlet in which the dispersion structure is between.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 42, 44, 45 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,309,889 to Cutler et al.

Cutler et al. disclose an apparatus for screening materials in an array comprising a cell (10), upper (16) and lower (20) windows, fluid permeable array support, and semi-permeable membrane (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26; col. 8, lines 43-46; col. 11, line 48-col. 12, line 10). The cell (10) comprises a

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first portion (14) and second portion (22), and vice versa (fig. 1). Alternatively, the first and second portions may be reasonably interpreted as the upper and lower regions of the cell. The first portion defines a passage leading to the upper window such as that described by the specification on page 13, lines 7 and 8 and shown in fig. 3 of the drawings of the immediate specification (fig. 1).

The cell has at least one fluid inlet and at least one fluid outlet. The fluid inlets and outlets may be provided through the connectors (50) fitted within the holes (48) of the upper window (fig. 1; col. 8, lines 29-39). A vent (52), which is an outlet, is provided on the lower window (fig. 7). The vent is on the opposite side of the connectors. More explicitly, the upper window may include an inlet (88) and outlet (90), which are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie (fig. 13; col. 10, lines 52 and 53). Regarding the fluid inlets and outlets provided through the connectors (50) fitted within the holes (48) of the upper window, the alternative embodiment regarding the upper window with inlet (88) and outlet (90) appear to confirm that each of the connectors (50) fitted within the holes (48) of the upper window is specifically for a fluid inlet and a fluid outlet, such that the inlet and outlet are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie. Furthermore, it would be reasonable to assume that one of the connectors is for the fluid inlet and the other connector is for the fluid outlet. In the event one would argue that one of the fluid connectors is not for the fluid inlet and the other fluid connector is not for the fluid outlet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have one of the fluid connectors as the fluid inlet to provide fluids into the cell and have

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the other fluid connector as the fluid outlet to withdraw undesired or excess liquids from the array support. This particular embodiment also discloses a vent (100), which is an outlet on the lower plate instead of the upper window (fig. 13; col. 8, lines 57-60; col. 10, lines 66 and 67). The vent is on the opposite side of the inlet and outlet.

The fluid permeable array support also has a fluid inlet through the top of the support provided at the upper window on one side of the support and membrane and a fluid outlet through the bottom of the support on the other side of the support and membrane (fig. 19). The upper and lower windows are positioned within the cell adjacent the first and second portions, respectively, in alignment with the passage (figs. 1-20). The fluid permeable array support is spaced apart from and in alignment with the upper and lower windows (figs. 1-20). The semi-permeable membrane is adjacent to the array support (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26). The semi-permeable membrane may be a silicone rubber (col. 4, lines 37-43; col. 6, lines 50-57). Since the instant specification on page 18, lines 3-5 attributes silicone rubber as hydrophobic, a membrane made from silicone rubber is hydrophobic. The fluid permeable array support may be scanned with a fluorescence microscope, luminescence imager, or the like (col. 7, lines 50-54; col. 11, lines 38 and 39). At least one fastener (28,30) connects the first and second portions of the reaction cell (figs. 1 and 2).

The cell further comprises a spacer (18) with a groove (40) on the upper side (36) and groove (42) on the lower side (38) in which an o-ring is disposed in each of the grooves (col. 8, lines 13-39). The spacer is positioned between the upper and lower windows, which are positioned between the first and second portions, such that the spacer inevitably is positioned

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between the first portion of the cell and a window. Since the microplate abuts the windows, part of the spacer is between a window and part of the microplate. Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a seal positioned within the reaction cell between the first portion of the cell and the window to prevent contamination of the contents of the reaction cell from the environment and leakage of the contents of the reaction cell into the environment. Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a spacing support positioned between the window and array support to prevent the window and array support from adhering.

7. Claims 1, 4-6, 9, 10, 13, 16, 17, 22, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 6,329,164 to Goodwin, Jr. and/or U.S. Patent No. 6,555,389 to Ullman et al. and/or U.S. Patent No. 5,366,885 to Barranco, III and/or U.S. Patent No. 5,135,850 to Prost and/or U.S. Patent No. 5,262,298 to Shipley et al. and/or U.S. Patent No. 5,032,508 to Naughton et al. and/or U.S. Patent No. 6,068,393 to Hutchins et al.

Cutler et al. disclose an apparatus for screening materials in an array comprising a cell (10), upper (16) and lower (20) windows, fluid permeable array support, and semi-permeable membrane (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26; col. 8, lines 43-46; col. 11, line 48-col. 12, line 10). The cell (10) comprises a first portion (14) and second portion (22), and vice versa (fig. 1). Alternatively, the first and second portions may be reasonably interpreted as the upper and lower regions of the cell. The

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first portion defines a passage leading to the upper window such as that described by the specification on page 13, lines 7 and 8 and shown in fig. 3 of the drawings of the immediate specification (fig. 1).

The cell has at least one fluid inlet and at least one fluid outlet. The fluid inlets and outlets may be provided through the connectors (50) fitted within the holes (48) of the upper window (fig. 1; col. 8, lines 29-39). A vent (52), which is an outlet, is provided on the lower window (fig. 7). The vent is on the opposite side of the connectors. More explicitly, the upper window may include an inlet (88) and outlet (90), which are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie (fig. 13; col. 10, lines 52 and 53). Regarding the fluid inlets and outlets provided through the connectors (50) fitted within the holes (48) of the upper window, the alternative embodiment regarding the upper window with inlet (88) and outlet (90) appear to confirm that each of the connectors (50) fitted within the holes (48) of the upper window is specifically for a fluid inlet and a fluid outlet, such that the inlet and outlet are positioned on opposite sides of the horizontal plane on which the combination of the array support and semi-permeable membrane lie. Furthermore, it would be reasonable to assume that one of the connectors is for the fluid inlet and the other connector is for the fluid outlet. In the event one would argue that one of the fluid connectors is not for the fluid inlet and the other fluid connector is not for the fluid outlet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have one of the fluid connectors as the fluid inlet to provide fluids into the cell and have the other fluid connector as the fluid outlet to withdraw undesired or excess liquids from the array support. This particular embodiment also discloses a vent (100), which is an outlet on the

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lower plate instead of the upper window (fig. 13; col. 8, lines 57-60; col. 10, lines 66 and 67).

The vent is on the opposite side of the inlet and outlet.

The fluid permeable array support also has a fluid inlet through the top of the support provided at the upper window on one side of the support and membrane and a fluid outlet through the bottom of the support on the other side of the support and membrane (fig. 19). The upper and lower windows are positioned within the cell adjacent the first and second portions, respectively, in alignment with the passage (figs. 1-20). The fluid permeable array support is spaced apart from and in alignment with the upper and lower windows (figs. 1-20). The semi-permeable membrane is adjacent to the array support (figs. 1-20; col. 2, lines 9-15, 25-37, and 51-62; col. 3, lines 14-55; col. 4, lines 20-44; col. 6, lines 2-26). The semi-permeable membrane may be a silicone rubber (col. 4, lines 37-43; col. 6, lines 50-57). Since the instant specification on page 18, lines 3-5 attributes silicone rubber as hydrophobic, a membrane made from silicone rubber is hydrophobic. The fluid permeable array support may be scanned with a fluorescence microscope, luminescence imager, or the like (col. 7, lines 50-54; col. 11, lines 38 and 39). At least one fastener (28,30) connects the first and second portions of the reaction cell (figs. 1 and 2).

Cutler et al. disclose a device for performing cell assays (abstract). Cutler et al. do not explicitly disclose a heat source in alignment with the window. Shipley et al. disclose that it is necessary to incubate cells in multiwell dishes at certain temperatures to assess the ability of a substance to inhibit or stimulate keratinocyte autocrine factor production (abstract; col. 7, lines 8-37). Analogous to the devices and methods of Cutler et al., Prost discloses performing cell assays by incubating cellular material in a liquid biological material including a releasable

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colored marker at a temperature within the range from 10 degrees to 60 degrees Celsius, preferably between 15 degrees to 40 degrees Celsius, and most preferably 37 degrees Celsius to release free radicals, and performing detection at 350 nm to 600 nm, particularly at 450 to 410 nm and 540 nm for evaluating the antioxidizing activities of a living organism or potentially aggressive agent (col. 4, line 55-col. 5, line 57). Barranco, III discloses testing chemotherapy agents on untreated tumor cells and tumor cells pretreated with buthionine sulfoximine (BSO) or calcium channel blocker, such as Verapamil by incubating at conditions conducive to cell growth--37 degrees Celsius in a humidified incubator (col. 2, lines 3-54; col. 3, lines 56-68). Ullman et al. disclose performing a variety of assays including cell assays (col. 5, lines 23-33). Ullman et al. further disclose that in some situations temperatures as high as 95 degrees Celsius, usually not exceeding about 85 degrees Celsius, and between 45 degrees Celsius and 95 degrees Celsius may be required, and such heating may be achieved by lasers, light flashes, resistance heaters, infrared, heat transfer, conduction, magnetic heaters, and the like (col. 13, lines 57-62). Goodwin, Jr. discloses incubating cells at appropriated temperature and humidity (37 degrees Celsius, 98% relative humidity is generally appropriate) and subjecting the cells between 200 nm and 400 nm from lasers (col. 8, lines 1-50; col. 13, lines 15-65). U.S. Patent No. 5,032,508 to Naughton et al. disclose incubating cells between 35 degrees Celsius to 37 degrees Celsius to encourage proliferation of cells, which may form a confluent monolayer (col. 21, lines 15-30). Hutchins et al. disclose performing immuoassays with multiple incubations via a robotic system for high-throughput (col. 1, lines 43-60; col. 3, lines 48-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to provide a heater in alignment with the window to provide appropriate

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incubation temperatures to encourage cell growth in performing cell assays as taught by Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al.

The cell further comprises a spacer (18) with a groove (40) on the upper side (36) and groove (42) on the lower side (38) in which an o-ring is disposed in each of the grooves (col. 8, lines 13-39). The spacer is positioned between the upper and lower windows, which are positioned between the first and second portions, such that the spacer inevitably is positioned between the first portion of the cell and a window. Since the microplate abuts the windows, part of the spacer is between a window and part of the microplate. Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. to include a seal positioned within the reaction cell between the first portion of the cell and the window to prevent contamination of the contents of the reaction cell from the environment and leakage of the contents of the reaction cell into the environment. Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. to include a spacing support positioned between the window and array support to prevent the window and array support from adhering.

8. Claims 8, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 6,329,164 to Goodwin, Jr. and/or U.S.

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Patent No. 6,555,389 to Ullman et al. and/or U.S. Patent No. 5,366,885 to Barranco, III and/or U.S. Patent No. 5,135,850 to Prost and/or U.S. Patent No. 5,262,298 to Shipley et al. and/or U.S. Patent No. 5,032,508 to Naughton et al. and/or U.S. Patent No. 6,068,393 to Hutchins et al., and further in view of U.S. Patent No. 6,063,633 to Willson, III.

Cutler et al. disclose the semi-permeable membrane may be made from silicone rubber, polyurethane, polythylene, polypropylene, perfluoro polymers, or cellulose acetate (col. 4, lines 37-43; col. 6, lines 50-57). Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. fail to address the material from which the array support is made. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. to make the array support from alumina, such that it would be made from a material different from that of the semi-permeable membrane, since it is a preferred material in dealing with catalysts since they can simulate commercial catalysts as taught by Willson, III (col. 2, lines 14-22; col. 4, lines 30-55).

9. Claims 3, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 6,329,164 to Goodwin, Jr. and/or U.S. Patent No. 6,555,389 to Ullman et al. and/or U.S. Patent No. 5,366,885 to Barranco, III and/or U.S. Patent No. 5,135,850 to Prost and/or U.S. Patent No. 5,262,298 to Shipley et al. and/or U.S. Patent No. 5,032,508 to Naughton et al. and/or U.S. Patent No. 6,068,393 to Hutchins et al., and further in view of U.S. Patent No. 5,604,132 to Capuano et al or U.S. Patent No. 6,296,771 to Miroslov.

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Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. do not explicitly disclose the apparatus for screening materials in an array comprising a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. to include a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet to automatically detect properties of components as taught by Miroslav or Capuano et al. (Miroslav: col. 19, line 28-col. 23, line 2; Capuano et al.: abstract; col. 7, lines 40-50).

10. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 6,329,164 to Goodwin, Jr. and/or U.S. Patent No. 6,555,389 to Ullman et al. and/or U.S. Patent No. 5,366,885 to Barranco, III and/or U.S. Patent No. 5,135,850 to Prost and/or U.S. Patent No. 5,262,298 to Shipley et al. and/or U.S. Patent No. 5,032,508 to Naughton et al. and/or U.S. Patent No. 6,068,393 to Hutchins et al., and further in view of U.S. Patent No. 6,087,375 to Bridon et al. and/or U.S. Patent No. 6,008,016 to Walker et al.

Cutler et al. disclose the use of a fluorescence detector. Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. do not disclose the use of a quadrupole mass spectrometer. Bridon et al. disclose the use of a Sciex API-300 triple quadrupole mass spectrometer with an ion-spray source to allow for atmospheric pressure ionization of a liquid flowing continuously into the

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instrument (col. 12, lines 24-34). Bridon et al. further disclose the use of mass spectrometry to support covalency of the bonding of derivatized argatroban to human serum albumin in the analysis of the conjugation (col. 11, line 61-col. 12, line 23). Walker et al. disclose the use of the Finnigan TSQ700 triple quadrupole mass spectrometer to identify isoforms and their molecular weights (col. 31, lines 39-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the quadrupole mass spectrometer in the apparatus of Cutler et al. in view of Shipley et al. and/or Prost and/or Barranco, III and/or Ullman et al. and/or Goodwin, Jr. and/or Naughton et al. and/or Hutchins et al. to identify components or determine molecular weight as taught by Bridon et al. and/or Walker et al.

11. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,309,889 to Cutler et al. in view of U.S. Patent No. 5,604,132 to Capuano et al. or U.S. Patent No. 6,296,771 to Miroslav.

Cutler et al. do not explicitly disclose the apparatus for screening materials in an array comprising a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Cutler et al. to include a detector, which is connected to a microprocessor, in fluid communication with the fluid outlet to automatically detect properties of components as taught by Miroslav or Capuano et al. (Miroslav: col. 19, line 28-col. 23, line 2; Capuano et al.: abstract; col. 7, lines 40-50).

Allowable Subject Matter

12. Claims 47-50 and 56-60 are allowed.

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13. Claims 12, 18, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 51 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

15. Claims 52-55 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

16. The following is an examiner's statement of reasons for allowance: Regarding claims 47-50, the prior art of record does not teach or fairly suggest a membrane support positioned within the cell adjacent to the semipermeable membrane in combination with a cell comprising first and second portions and fluid inlet and at least one fluid outlet and the first portion defining a passage, window positioned within the cell adjacent the first portion in alignment with the passage, fluid permeable array support spaced apart from and in alignment with the window, semipermeable membrane adjacent the array support, and fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and semipermeable membrane. Regarding claims 56-60, the prior art of record does not teach or fairly suggest a calibration port located between the fluid outlet and the detector in combination with a cell comprising first and second portions and fluid inlet and at least one fluid outlet and the first portion defining a passage, window positioned within the cell adjacent the first portion in alignment with the passage, fluid permeable array support spaced apart from and in alignment

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with the window, semipermeable membrane adjacent the array support, and detector in fluid communication with the fluid outlet.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

17. The following is a statement of reasons for the indication of allowable subject matter: The prior art of the record does not teach or fairly suggest the limitations of claims 12, 18, and 20 each in combination with the limitations in the claims they depend from.

Response to Arguments

18. Examiner realized additional interpretation of the claims. For example, the heater can be considered to be the laser (34), which was pointed out in Applicant's remark and required further consideration by the Examiner. Examiner has discovered prior art in light of this perspective. Examiner regrets the inconvenience this will cause the Applicant.

19. Applicant's arguments filed 3/31/2004 have been fully considered but they are not persuasive. Applicant argues that the cited references do not teach or suggest each and every element of Applicant's invention. Applicant refers to figs. 1 and 2 showing connectors (50) to be on the same side of a membrane, and figs. 11 and 13 showing inlet (88) and outlet (90) to be on the same side of a membrane. Applicant argues that the claims require a fluid inlet and at least one fluid outlet on opposite sides of the combination of the array support and the semi-permeable membrane. Examiner notes that the connectors (50) in fig. 1 are across from each other and thus on different sides of the combination of array support and semi-permeable membrane when the

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device is assembled. The same is shown in fig. 11 in which (88) and (90) are across from each other and thus on different sides of the combination array support and semi-permeable membrane when the device is assembled. The instant drawings illustrate this with fluid inlet (8) across from fluid outlet (10).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elizabeth Quan
Examiner
Art Unit 1743

eq


Jill Warden
Supervisory Patent Examiner
Technology Center 1700

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